

CLAIMS:

1. A lithium based battery comprising;
a cell structure group formed by stacking unit cells
5 each including a positive electrode, a negative electrode,
and a separator interposed therebetween, or formed by
repeatedly folding or winding an integral body of said unit
cells;
a battery container for containing said cell structure
10 group; and
an electrolyte, which is poured in said battery
container after said cell structure group is contained in
said battery container;
wherein the outer peripheral surface of said battery
15 container is covered with an ion impermeable and extensible
high polymer sheet having a tensile elongation percentage of
1 % or more.
2. A lithium based battery comprising:
20 a cell structure group formed by stacking unit cells
each including a positive electrode, a negative electrode,
and a separator interposed therebetween, or formed by
repeatedly folding or winding an integral body of said unit
cells; and
25 an electrolyte;
wherein the outer periphery of said cell structure
group is covered with an ion impermeable and extensible high
polymer sheet having a tensile elongation percentage of 1 %
or more.
- 30 3. A lithium based battery comprising:
a cell structure group formed by stacking unit cells
each including a positive electrode, a negative electrode,
and a separator interposed therebetween, or formed by
35 repeatedly folding or winding an integral body of said unit
cells;

1 a battery container for containing said cell structure
2 group; and

3 an electrolyte, which is poured in said battery
4 container after said cell structure group is contained in
5 said battery container;

6 wherein the outer peripheral surface of said battery
7 container is covered with an ion impermeable and extensible
8 high polymer sheet having a tensile elongation percentage of
9 1 % or more, and also the outer periphery of said cell
10 structure group is covered with said ion impermeable and
11 extensible high polymer sheet.

12 4. A lithium based battery comprising:

13 a cell structure group formed by stacking unit cells
14 each including a positive electrode, a negative electrode,
15 and a separator interposed therebetween, or formed by
16 repeatedly folding or winding an integral body of said unit
17 cells;

18 a battery container for containing said cell structure
19 group; and

20 an electrolyte, which is poured in said battery
21 container after said cell structure group is contained in
22 said battery container;

23 wherein said positive electrode and said negative
24 electrode of each of said unit cells are respectively formed
25 on one surface of a positive collector and one surface of a
negative collector in such a manner as to face to each other
with said separator put therebetween; and

26 an ion impermeable and extensible high polymer sheet
27 having a tensile elongation percentage of 1 % or more is
28 disposed between adjacent two of said unit cells and/or on
29 the outer peripheral surface of each of said unit cells.

30 5. A lithium based battery according to any one of claims
31 1 to 3, wherein said positive electrode and said negative
32 electrode of each of said unit cells are respectively formed
33 on one surface of a positive collector and one surface of a

negative collector in such a manner as to face to each other with said separator put therebetween; and

an ion impermeable and extensible high polymer sheet having a tensile elongation percentage of 1 % or more is disposed between adjacent two of said unit cells and/or on the outer peripheral surface of each of said unit cells.

6. A lithium based battery according to any one of claims
1 to 5, wherein said extensible high polymer sheet is made
10 from at least one kind selected from a group consisting of a
polyamide based elastomer, a polyurethane based elastomer, a
polyolefin based elastomer, a polyester based elastomer, a
styrene based elastomer, a vinyl chloride based elastomer,
and a fluorine based elastomer.